

### Claims

1- An extruded polymeric article comprised of a polymeric matrix and polymeric particles which are substantially spherical, highly crosslinked, have a mean particle size of between 15 and 70 micrometers and have a particle size distribution between 10-110 micrometers wherein the article has a frosted, a surface textured finish or a frosted and surface textured finish.

2. The article of Claim 1, wherein the beads have a mean particle size of 25-55 micrometers.

3. The article of Claim 1 wherein the polymeric matrix is an ABS terpolymer, ASA copolymer, polycarbonate, polyester, PETG, MBS copolymer, HIPS, acrylonitrile/acrylate copolymer, polystyrene, SAN, MMA/S, an acrylonitrile/methyl methacrylate copolymer, impact modified polyolefins, PVC, impact modified PVC, imidized acrylic polymer, acrylic polymer or impact modified acrylic polymer.

4. The article of Claim 3 wherein the polymeric matrix is polymethyl methacrylate based.

5. The article of Claim 1 wherein a frosted appearance is achieved through the mismatch of the refractive indices of the polymeric particles and polymeric matrix by greater than 0.02.

6. The article of Claim 1 comprised of

- a) 20 - 90% polymethyl methacrylate or alkyl methylacrylate/alkyl acrylate copolymer based matrix;
- b) 0 - 50% modifiers; and

c) 5 - 60% highly crosslinked spherical beads comprised of about 0-100 % styrene; 0-100% alkyl methacrylate, 0-100% alkyl acrylate and crosslinking agent.

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7. The article of Claim 1 comprised of

a) 20 - 90% polymethyl methacrylate or alkyl methylacrylate/alkyl acrylate copolymer based matrix;

b) 0 - 50% modifiers; and

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c) 5 - 30% highly crosslinked spherical beads comprised of about 0-100 % styrene, 0-100% alkyl methacrylate, 0-100% alkyl acrylate and crosslinking agent.

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8. The article of Claim 1 comprised of

a) 20 - 90% polymethyl methacrylate based matrix;

b) 0 - 50% modifiers; and

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c) 5 - 30% highly crosslinked spherical beads comprised of 0 - 50 % styrene 100- 50 % alkyl alkylacrylate, alkyl acrylate or a combination thereof and 0.1-2.5% crosslinking agent.

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9. The article of Claim 1, wherein the particles are comprised of

a) 0 - 50% styrene;

b) 45-100% alkyl methylacrylate or alkyl acrylate;

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c) 0.01-5% crosslinking agent.

10. The article of Claim 9 wherein the crosslinking agent is ethylene glycol dimethacrylate, divinylbenzene or allyl methacrylate.

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11. The article of Claim 10 wherein the crosslinking agent is divinylbenzene.

12. A resin comprised of

5 a) 20 - 90% polymethyl methacrylate based matrix;

b) 5 - 50% modifiers; and

c) 5 - 30% highly crosslinked spherical beads  
comprised of

10 10 - 50 % styrene

90 - 50 % methyl methacrylate

0.1 - 2.5 % crosslinking agent,

wherein the beads have a mean particle size of 15-70 micrometers, and a particle size distribution of between 15-110 micrometers.

15 13. The resin of Claim 12 wherein the crosslinking agent is ethylene glycol dimethacrylate, divinylbenzene or allyl methacrylate.

20 14 The resin of Claim 12 wherein the crosslinking agent is allylmethacrylate.

25 15. The resin of claim 12 wherein the beads contain a colorant.

16. A resin comprised of

a) 70 - 85% polymethyl methacrylate based matrix; and

b) 15 - 30% highly crosslinked spherical beads  
comprised of

30 15 - 35 % styrene

65 - 85 % methyl methacrylate

0.5-1.5% allylmethacrylate;

wherein the beads have a mean particle size of 15-70 micrometers, and a particle size distribution of between 15-110 micrometers.

17. A resin comprised of

a) 20 - 90% polymethyl methacrylate or alkyl  
methacrylate/alkyl acrylate copolymer based matrix;

b) 0 - 50% modifiers; and

c) 5 - 30% highly crosslinked spherical beads  
comprised of about

0-100 % styrene,

0-100% alkyl methacrylate,

0-100% alkyl acrylate and

crosslinking agent.